II. CLAIM AMENDMENTS

1. (Currently Amended) A substrate processing apparatus having a station for loading and unloading substrates from the apparatus, the station comprising:

an aperture closure for sealing a loading and unloading aperture of the station, the aperture being configured for loading and unloading substrates from a substrate magazine;

apparatus for removing a door of the substrate magazine and thus opening the substrate magazine, and for operating the aperture closure to open the aperture;

an elevator for precisely positioning the open substrate magazine along a vertical axis within a usable range of motion;

a buffer transport for positioning the substrate magazine along a second axis oriented in a second direction different from the vertical axis; and

a shuttle for transporting the substrate magazine along a third axis oriented in a third direction different from the vertical and second directions;

wherein the buffer transport is operative for moving the substrate magazine between a first position and a second position, wherein when in the first position the substrate magazine is ~~located~~ seated on a magazine support and

communicates with the aperture, and when moved to the second position the substrate magazine is offset from the first position and is buffered adjacent the aperture while remaining seated on the magazine support so that another substrate magazine is capable of being located at the first position in communication with the aperture, wherein the buffer transport is arranged so that each substrate magazine is individually movable between the first and second positions while the substrate magazine remains seated on the magazine support and wherein the first and second positions are horizontally coplanar.

2. (Original) The substrate processing apparatus of claim 1, wherein the elevator operates such that a substrate within the open magazine is positioned substantially in a wafer transport plane, the substrate processing apparatus further comprising a transport apparatus for accessing the substrate in the wafer transport plane through the aperture.

3. (Original) The substrate processing apparatus of claim 2, wherein the elevator includes a device for positioning the open substrate magazine such that substantially no vertical movement is required by the transport apparatus.

4. (Previously Presented) The substrate processing apparatus of claim 1, wherein the first and second positions are substantially in a plane that includes the second axis.

5. (Previously Presented) The substrate processing apparatus of claim 1, wherein the second position is in a peripheral area and the first position is in a central area.

6. (Canceled)

7. (Previously Presented) The substrate processing apparatus of claim 5, wherein the buffer transport is operable to place the magazine in the peripheral area and the central area.

8. (Previously Presented) The substrate processing apparatus of claim 7, wherein the elevator is operable to move the magazine placed in the central area.

9. (Original) The substrate processing apparatus of claim 1, wherein the station further comprises a sensor for mapping vertical locations of the substrates.

10. (Currently Amended) The substrate processing apparatus of claim ~~9~~ 11, wherein the sensor ~~is mounted to a frame of the station and~~ is capable of mapping the vertical location while the elevator is precisely positioning the open substrate magazine along the vertical axis.

11. (Currently Amended) ~~The~~ A substrate processing apparatus ~~of claim 9~~ having a station for loading and unloading substrates from the apparatus, the station comprising:

an aperture closure for sealing a loading and unloading aperture of the station, the aperture being configured for loading and unloading substrates from a substrate magazine;

apparatus for removing a door of the substrate magazine and thus opening the substrate magazine, and for operating the aperture closure to open the aperture;

an elevator for precisely positioning the open substrate magazine along a vertical axis within a usable range of motion;

a buffer transport for positioning the substrate magazine along a second axis oriented in a second direction different from the vertical axis;

a shuttle for transporting the substrate magazine along a third axis oriented in a third direction different from the vertical and second directions;

wherein the buffer transport is operative for moving the substrate magazine between a first position and a second position, wherein when in the first position the substrate magazine is located on a magazine support and communicates with the aperture, and when moved to the second position the substrate magazine is offset from the first position and is buffered adjacent the aperture while remaining on the magazine support, and wherein the first and second positions are horizontally coplanar; and

~~, wherein the~~ a sensor ~~is~~ rotatably mounted on a frame of the station such that upon removal of a door of the magazine, the sensor rotates so that an emitter and receiver of the sensor extends inside the magazine.

12. (Canceled)

13. (Original) The substrate processing apparatus of claim 1, wherein the station further comprises a mini-environment for interfacing the station to the substrate processing apparatus.

14. (Currently Amended) A substrate processing apparatus having a station for loading and unloading substrates from the apparatus, the station comprising:

an aperture closure for sealing a loading and unloading aperture of the station;

a fluidic magazine door drive for removing a door of a substrate magazine and thus opening the substrate magazine, and for operating the aperture closure to open the aperture; and

a sensor, for mapping vertical locations of the substrates, mounted to the magazine door drive of the station;

wherein the fluidic magazine door drive further comprises an encoder different from the sensor, the encoder being configured for determining the vertical position of the sensor.

15. (Previously Presented) The substrate processing apparatus of claim 14, wherein the sensor is a through-beam sensor.

16. (Original) The substrate processing apparatus of claim 14, wherein the magazine door drive is a pneumatic drive.

17. (Previously Presented) The substrate processing apparatus of claim 14, wherein the sensor is operable to map the substrate locations while the fluidic magazine door drive is positioning the door of the substrate magazine along the vertical axis.

18. (Canceled)

19. (Previously Presented) The substrate processing apparatus of claim 14, wherein the substrate locations are determined by recording the magazine door drive vertical position information when the sensor detects an individual substrate.

20. (Original) The substrate processing apparatus of claim 14, wherein the sensor is operable to map the substrate locations during an operation of the magazine door drive.

21. (Canceled)

22. (Previously Presented) The substrate processing apparatus of claim 20, wherein the substrate locations are determined by processing the magazine door drive position information when the sensor detects an individual substrate.

23. (Canceled)

24. (Previously Presented) The substrate processing apparatus of claim 14, further comprising a transport apparatus for accessing substrates in the substrate magazine through the loading and unloading aperture.

25. (Previously Presented) The substrate processing apparatus of claim 14, further comprising a substrate buffer for temporary substrate storage.

26. (Previously Presented) The substrate processing apparatus of claim 14, wherein the station further comprises at least one peripheral area and a central area.

27. (Previously Presented) The substrate processing apparatus of claim 14, further comprising a buffer transport for positioning the substrate magazine in at least one peripheral area and the central area.

28. (Previously Presented) The substrate processing apparatus of claim 14, wherein the station further comprises a mini-environment for interfacing the station to the substrate processing apparatus.

29. (Canceled)

30. (Canceled)

31. (Canceled)

32. (Canceled)

33. (Canceled)

34. (Canceled)

35. (Canceled)

36. (Canceled)

37. (Previously Presented) The substrate processing apparatus of claim 1, wherein the buffer transport includes more than one horizontally adjacent magazine support for supporting substrate magazines, where each of the substrate magazines remain on a respective one of the magazine supports during horizontal

movement of the buffer transport for positioning the substrate magazines between the first and second positions.